

WHAT IS CLAIMED:

1           1. A method for use in a packet server, the method comprising the steps of:  
 2           receiving a stream of packets; and  
 3           determining that number of packets from the received packet stream that are lost  
 4 over a time period;  
 5           determining a number of expected packets to be lost for the received packet  
 6 stream in accordance with a random loss model; and  
 7           determining a burst ratio from the determined number of packets lost to the  
 8 number of expected packets to be lost.

1           2. The method of claim 1 wherein the step of determining the number of packets  
 2 lost determines an average length of observed bursts in the received packet stream over  
 3 the time interval.

1           3. The method of claim 2 wherein the step of determining the number of expected  
 2 packets to be lost determines an average length of bursts expected for a random loss  
 3 packet-based network.

1           4. The method of claim 3 wherein the step of determining the burst ratio  
 2 determines a ratio of the average length of observed bursts in the received packet stream  
 3 over the time interval to the average length of bursts expected for a random loss packet-  
 4 based network.

1           5. A method for use in a packet server, the method comprising the steps of:  
 2           receiving a stream of packets; and  
 3           determining a burst ratio for the received packet stream, wherein the burst ratio  
 4 equals  $1 / (1 + \alpha - \beta)$ , wherein  $\alpha$  is a probability of losing packet  $n$  if packet  $n - 1$  was  
 5 found and  $\beta$  represents a probability of losing packet  $n$  if packet  $n - 1$  was lost.

1           6. A method for use in a packet server, the method comprising the steps of:  
 2           receiving a stream of packets; and

3 determining a burst ratio for the received packet stream; and  
4 changing the processing for the received packet stream as a function of the  
5 determined burst ratio.

1 7. The method of claim 6 wherein the changing step alters a priority level for the  
2 received packet stream.

1 8. The method of claim 6 wherein the determining the burst ratio step includes the  
2 steps of:

3 determining that number of packets from the received packet stream that are lost  
4 over a time period; and

5 determining a number of expected packets to be lost for the received packet  
6 stream in accordance with a random loss model.

1 9. The method of claim 6 wherein the determining the burst ratio step includes the  
2 steps of:

3 determining an average length of observed bursts in the received packet stream  
4 over a time interval;

5 determining an average length of bursts expected for a random loss packet-based  
6 network; and

7 determining the burst ratio from the average length of observed bursts and the  
8 average length of bursts for the random loss packet network.

1 10. The method of claim 6 wherein the determining the burst ratio step determines  
2 the burst ratio from  $1 / (1 + \alpha - \beta)$ , wherein  $\alpha$  is a probability of losing packet  $n$  if packet  $n$   
3 - 1 was found and  $\beta$  represents a probability of losing packet  $n$  if packet  $n - 1$  was lost.

1 11. A method for use in a packet server, the method comprising the steps of:  
2 receiving a stream of packets; and  
3 determining a burst ratio for the received packet stream; and  
4 associating the determined burst ratio as a figure of merit for the packet server for  
5 use in traffic planning.

1           12. The method of claim 11 wherein the determining the burst ratio step includes  
2 the steps of:

3           determining that number of packets from the received packet stream that are lost  
4 over a time period; and  
5           determining a number of expected packets to be lost for the received packet  
6 stream in accordance with a random loss model.

1           13. The method of claim 11 wherein the determining the burst ratio step includes  
2 the steps of:

3           determining an average length of observed bursts in the received packet stream  
4 over a time interval;  
5           determining an average length of bursts expected for a random loss packet-based  
6 network; and  
7           determining the burst ratio from the average length of observed bursts and the  
8 average length of bursts for the random loss packet network.

1           14. The method of claim 11 wherein the determining the burst ratio step  
2 determines the burst ratio from  $1 / (1 + \alpha - \beta)$ , wherein  $\alpha$  is a probability of losing packet  
3  $n$  if packet  $n - 1$  was found and  $\beta$  represents a probability of losing packet  $n$  if packet  $n -$   
4  $1$  was lost.

1           15. A method comprising the steps of:  
2 testing a packet server in such a way as to determine a burst ratio; and  
3 associating the burst ratio as a figure of merit for the packet server.

1           16. The method of claim 15 wherein the testing step determines the burst ratio by:  
2 determining that number of packets from a received packet stream that are lost  
3 over a time period; and  
4 determining a number of expected packets to be lost for the received packet  
5 stream in accordance with a random loss model.

1           17. The method of claim 15 wherein the testing step determines the burst ratio by:

2 determining an average length of observed bursts in a received packet stream over  
3 a time interval;

4 determining an average length of bursts expected for a random loss packet-based  
5 network; and

6 determining the burst ratio from the average length of observed bursts and the  
7 average length of bursts for the random loss packet network.

1 18. The method of claim 15 wherein the testing step determines the burst ratio  $1 /$   
2  $(1 + \alpha - \beta)$ , wherein  $\alpha$  is a probability of losing packet  $n$  if packet  $n-1$  was found and  $\beta$   
3 represents a probability of losing packet  $n$  if packet  $n-1$  was lost.

1 19. A packet server comprising:

2 a receiver for receiving a stream of packets; and

3 a processor for (a) determining that number of packets from the received packet  
4 stream that are lost over a time period, (b) determining a number of expected packets to  
5 be lost for the received packet stream in accordance with a random loss model, and (c)  
6 determining a burst ratio from the determined number of packets lost to the number of  
7 expected packets to be lost.

1 20. The apparatus of claim 19 wherein the processor determines the number of  
2 packets lost by determining an average length of observed bursts in the received packet  
3 stream over the time interval.

1 21. The apparatus of claim 20 wherein the processor determines the number of  
2 packets expected to be lost by determining an average length of bursts expected for a  
3 random loss packet-based network.

1 22. The apparatus of claim 21 wherein the processor determines the burst ratio by  
2 a ratio of the average length of observed bursts in the received packet stream over the  
3 time interval to the average length of bursts expected for a random loss packet-based  
4 network.

1 23. A packet server comprising:

2 a receiver for receiving a stream of packets; and  
3 a processor for a burst ratio for the received packet stream, wherein the burst ratio  
4 equals  $1 / (1 + \alpha - \beta)$ , wherein  $\alpha$  is a probability of losing packet  $n$  if packet  $n-1$  was found  
5 and  $\beta$  represents a probability of losing packet  $n$  if packet  $n-1$  was lost.

1 24. A packet server comprising:  
2 a receiver for receiving a stream of packets; and  
3 a processor for (a) determining a burst ratio for the received packet stream, and (b)  
4 changing the processing for the received packet stream as a function of the determined  
5 burst ratio.

1 25. The apparatus of claim 24 wherein the processor changes the processing by  
2 altering a priority level for the received packet stream.

1 26. The apparatus of claim 24 wherein the processor determines the burst ratio by  
2 determining that number of packets from the received packet stream that are lost over a  
3 time period, and determining a number of expected packets to be lost for the received  
4 packet stream in accordance with a random loss model.

1 27. The apparatus of claim 24 wherein the processor determines the burst ratio by  
2 determining an average length of observed bursts in the received packet stream over a  
3 time interval, and determining an average length of bursts expected for a random loss  
4 packet-based network, and determining the burst ratio from the average length of  
5 observed bursts and the average length of bursts for the random loss packet network.

1 28. The apparatus of claim 24 wherein the processor determines the burst ratio  
2 from  $1 / (1 + \alpha - \beta)$ , wherein  $\alpha$  is a probability of losing packet  $n$  if packet  $n-1$  was found  
3 and  $\beta$  represents a probability of losing packet  $n$  if packet  $n-1$  was lost.